AUTOMATIC TRACKING AND ASSEMBLY OF CHANGED PORTIONS OF CONFIGURATION DATA FOR PARTIAL RUN-TIME RECONFIGURATION OF A PROGRAMMABLE LOGIC DEVICE

ABSTRACT

Automatic tracking and assembly of changed portions of configuration data for partial run-time reconfiguration of a programmable logic device (PLD). The methods of an API that supports run-time reconfiguration applications for a PLD manage configuration data for partial reconfiguration. The API saves in application memory a copy of the configuration data used to configure the PLD. As the application updates selected portions of the in-memory configuration data, the API tracks which portions of the configuration data changed. When the application initiates reconfiguration of the PLD, the API partially reconfigures the PLD with the tracked changed portions of the configuration data. For readback of configuration data from the PLD, the API tracks which portions of in-memory configuration data are synchronized with the PLD.